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ABSTRACT

The Electronic Resources Team at the University of Rochester (New York) River Campus Libraries pursued the concept of one-stop shopping as a component of their new integrated library system Voyager, which debuted in January 1997. Faced with a growing variety of electronic resources with no single guide to their existence and access, the Team dealt with a number of issues to create a unified group of Web pages providing information and, where possible, desktop access to the University of Rochester community. These pages are accessible within Voyager through the Windows client in the libraries and the World Wide Web gateway for remote users. Issued included logical presentation through a single interface of such disparate resources as both licensed and unrestricted remote Web and Telnet resources, some requiring CGI scripting, as well as CD-ROMs on standalone workstations and on local area networks (LANs). These resources are spread across eight separate libraries and the Internet. Content includes bibliographic indexes, electronic journals, and full-text and numeric databases. This paper covers specific elements in the development of the one-stop shopping concept, with considerations relevant for other institutions, including: resource formats; audience; access; security; web page design and maintenance; layering for individual choice; user support; specific achievements and barriers faced at the University of Rochester; and implications for future development. (Author/SWC)

ED 412 904

# The Universe at Your Fingertips: Continuing Web Education

April 25, 1997 — University Center — University of California, Santa Barbara

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## Abstract

**ONE-STOP SHOPPING: PRESENTING DISPARATE ELECTRONIC RESOURCES THROUGH A SINGLE INTERFACE**

The Electronic Resources Team at the University of Rochester River Campus Libraries pursued the concept of one-stop shopping as a component of their new integrated library system Voyager, which debuted in January 1997. Faced with a growing variety of electronic resources with no single guide to their existence and access, the Team dealt with a number of issues to create a unified group of web pages providing information and, where possible, desktop access to the University of Rochester Community. These pages are accessible within Voyager through the Windows client in the libraries and the web gateway for remote users. Issues included logical presentation through a single interface of such disparate resources as both licensed and unrestricted remote web and telnet resources, some requiring CGI scripting, as well as CD-ROMs on standalone workstations and on LANs. These resources are spread across eight separate libraries and the Internet. Content includes bibliographic indexes, electronic journals, and full-text and numeric databases.

The presentation will cover specific elements addressed in the development of the one-stop shopping concept and considerations relevant for other institutions, including:

- Resource formats
- Audience
- Access
- Security
- Web page design and maintenance
- Layering for individual choice
- User support

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- Implications for future development
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Please visit our One-stop Shopping page

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# Introduction

The Electronic Resources Team at the University of Rochester River Campus Libraries pursued the concept of one-stop shopping as a component of their new integrated library system Voyager, which debuted in January 1997. Faced with a growing variety of electronic resources with no single guide to their existence and access, the Team sought a unified delivery system to provide information and, where possible, desktop access to the University of Rochester community. In this paper we present specific elements that the Electronic Resources Team addressed in our rapid development of the one-stop shopping concept and considerations relevant for other institutions.

## The Libraries at the University of Rochester

The University of Rochester is a private research university in Rochester, New York,

with a student population of over 8,000. On the River Campus, eight libraries in three different buildings serve the College (Arts, Sciences, and Engineering), the William E. Simon Graduate School of Business Administration, and the Margaret Warner Graduate School of Education and Human Development. On separate campuses, the Sibley Library serves the Eastman School of Music, and the Miner Library serves the School of Medicine and Dentistry and the School of Nursing. For several years, the libraries have provided leadership at the University of Rochester for the development of the Campus Wide Information System and web resources. As a result, we have significant web expertise on the library staff. The one-stop concept was designed to serve the River Campus Libraries exclusively, but for resources shared among the three campuses, coordination was necessary.

## Electronic Resources Offered through River Campus Libraries

Electronic resources offered through the libraries exist in several formats, but most are CD-ROM databases. We have eighteen CD databases accessible on a library local area network (LAN), and over one hundred additional products available on standalone workstations in the different libraries. The LAN is not accessible outside of the libraries. Through the Internet we offer FirstSearch databases and several other products, including *Britannica Online* and *PsycINFO*. Access to all of these is available via the web, but some are also accessible by telnet. The University of Rochester does not support campus-wide authentication, and the libraries are unable at this time to provide authentication for use of the library system. Lack of user authentication adds complexity to offering desktop access to resources and in restricting the use of specific products to some, but not all, in-library users.

## Opportunities with a New Library System

For several years the libraries at the University of Rochester have been working to migrate to a new library system. The chosen system, Voyager from Endeavor Information Systems, provided major new capabilities, including incorporation of Internet access to resources from within the system using Netscape. As we prepared to come live with Voyager in January 1997, we wanted to present a new concept for library resources that reflected the single stopping place for all of our electronic products, including the online catalog. We wanted the OPAC to be seen as part of a larger package from the beginning.

## Electronic Resources Team

The Electronic Resources Team (ERT), formed in 1993, provides leadership in identifying, evaluating, and planning for electronic resources for the River Campus Libraries. The Team currently consists of seven members from public and technical services. We are a cohesive and organized group, with a track record of successful activities.

The opportunity for the ERT to develop one-stop shopping began as a charge to create an interface for the networked public workstations within the library that would incorporate the new Voyager OPAC. The interface needed to combine access to the CD databases on the LAN using a Windows-based menuing system, the new OPAC being implemented, FirstSearch, Netscape, and a few other remote resources--all within a secure Windows environment. The Team worked with Public Services, Systems, and Microcomputer

Services departments to develop an interface, but several problems complicated the project. As ERT tried to combine all of these elements, we realized that we would also now be supporting remote web access to Voyager. From this mix emerged the realization that, for resources that would be available to remote users, the web was a common element. Both within the library, using Voyager's graphical client (GUI), and outside of the library, using Voyager's web gateway, web browser access to resources was the same. In addition to the original charge, the ERT undertook to develop an One-Stop web page for electronic resources at the River Campus Libraries.

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# Planning for One-Stop Access to Electronic Resources

The Electronic Resources Team knew that it could not provide desktop access to all of the databases available in the River Campus Libraries. The CD-ROM databases mounted on the library LAN and on standalone workstations were unavailable to remote users, and they represented a substantial proportion of all the database resources we offered. Despite that, early in our planning we decided that providing some access was preferable to no access. Those databases we could not provide desktop access to, we would include in the project on an informational level. At that time, the River Campus Libraries had no single compilation of all our electronic resources, and here was an opportunity to address that lack, as well.

## Accommodating Different Characteristics

Reaching that decision helped to focus ERT discussions. Resources that we could not provide desktop access to received one level of treatment (location information), while the rest were clearly the ones we needed to consider in all their variety as a unified group. Achieving unity of presentation was longer in coming.

Other aspects to be considered for specific resources were identifying multiple modes of access to a single resource and distinguishing different products drawn from the same data. For example, all of our FirstSearch databases were available through both telnet and the web, and a few of these were also on the CD network--a third mode of access that needed to be listed with location information. A few resources, such as *Medline* and *PsycINFO*, were available as more than one product, with varying amounts of coverage. Finally, we had to consider those resources that required either login with user ID and password or authentication by IP address. The mix of considerations was, at first, confusing. As we worked with all the variables, we came to understand that the amount of data provided (different products drawn from the same data source) was distinct from the mode of access (web, telnet, feet to library). The login and authentication requirements for connection to licensed resources constituted an added layer to mode of access for some resources.

## Security

The only aspect of security considered by the ERT was secure CGI scripting for accessing licensed resources. The security of the campus network, the web pages, and the Voyager system were responsibilities of others outside the team. Other institutions might not have this clear separation. For our part, we were concerned that resource login

information was not visible to the user. Both web browsers and telnet would be used to connect to resources from our One-Stop page. We did not want the ability to view the encoded source document to reveal key information.

## Filtering for Individual Choice

As the Team worked with prototypes, our discussions revealed different views on how people would want to look for information. We agreed on an alphabetized listing by resource name, but also wanted subject access to help users unfamiliar with specific databases. We could see that some people might want only those resources that they could use from their desktops--what they could work with immediately--without having to wade through a listing of resources that required coming into a library. Perhaps some would want to quickly identify full-text or statistical resources, skipping citation indexes. Lastly, many of our remote users were already familiar with our FirstSearch databases and would probably want to go straight to that gateway. All of these, and more, are legitimate filters to the list of databases. Our concern was to provide individual choice in how one approaches identifying the resources needed--to offer different filters for viewing.

Because it would debut with our new Voyager system in January 1997, we were faced with an impending deadline for the One-Stop page. The Team simply did not have time to implement all of the discussed filters. As a first step, we agreed to provide users access to the database titles in an alphabetical listing as the default display, with buttons providing access to titles collected in broad subject groups (such as Humanities, Science/Engineering, Business/Management) and to the FirstSearch gateway. We will add some of the other filters originally discussed when we can. If we provide access to databases from additional vendors or aggregators (such as OVID, SilverPlatter, IAC, or DIALOG@CARL), we may discover that adding more gateway buttons will be a design problem.

## User Support

Since One-Stop is accessed by web browsers, the libraries are not responsible for distributing software or providing extensive software support. This same consideration was a factor in developing the web gateway to the Voyager system for access from outside of the libraries.

The first concern for user support was to design the One-Stop web page well enough to minimize difficulties in its use. Support for the resources made available through the One-Stop page was another matter entirely. We discussed providing links within each brief description statement under the database title to fuller descriptions of the products or even help sheets, but had no time to decide that before our January deadline. More detailed descriptions are an enhancement for later consideration. Help sheets are less likely to be implemented for maintenance reasons. That decision places greater reliance on the online help for each database. Consequently, the help provided by the vendor becomes even more important to consider when making decisions to license database products.

One aspect the ERT is not addressing with One-Stop is the proportion of the university community having only telnet access. The One-Stop page is not accessible via telnet, and we are planning no telnet equivalents. Telnet users can access some of the resources on

the One-Stop page through other avenues, but this page is not directed to that population. It was anticipated that the entire Voyager system, with attendant resources, would provide impetus for upgrading the network infrastructure in the libraries and on campus. It was also expected to lead to upgrades of individual computing capability. As we discover what percentage of the university community cannot access One-Stop, we may need to reconsider that decision.

### Trial Databases

A later feature that the Team did not originally plan for was added to the One-Stop page and became an instant hit. The Team developed a Trial Databases web page that links from One-Stop with a button. As we continue to explore new resources and gateways for desktop delivery, we have found it very handy to put links to trial subscriptions on a web page for the university community to test. Advertising availability of trial subscriptions is simpler, and people are learning to look there for anything new. In doing reference work, staff are more likely to remember resources on that page that might be useful, even if we only have it for a few weeks. And, the library is perceived as actively investigating new resources with the involvement of the university community.

Please visit our One-stop Shopping page

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## Web Page Design and Maintenance

We looked at several academic libraries' sites to get ideas about designing web pages to provide access to databases. However, our design had to build on our particular institutional environment with its limitations of accessibility, authentication, and maintenance. A member of the ERT, Allison Zhang, was the principal designer for the One-Stop page.

### Layout design

The layout design was based on three factors: 1) it must be attractive and easy to read; 2) it must be accessible using most web browsers; and 3) it must load quickly.

The most widely used web browser on campus is Netscape 2.0 or higher. However, we wanted this page to be accessible through most available browsers. On the other hand, we did not want the page to be boring. The Team was concerned that the page be visually attractive and clear to use. Three draft pages were created and considered by the Team:

- Plain text version - could be viewed by graphical or non-graphical web browsers
- Table version - could be viewed by any graphical web browser
- Frame version - could be viewed in Netscape 2.0 or higher and Internet Explorer 3.0 or higher

The Team decided to use the table version for its accessibility and attractive layout. There was discussion of whether we should use small graphics to identify different products and access modes. The implications for page loading speed was the main factor in rejecting that approach. We decided to use graphics at a restrained level for enhanced appearance as long as loading time was not adversely affected. As an aid to clarity, we also selected

different text colors to identify notes and instructions that were included as part of the brief database descriptions.

## Contents design

As we began to plan the One-Stop page, we asked, "What kinds of information do we want to provide?" Again, the ERT looked on the web to see what other institutions were doing. There were two models that we found:

- a list of titles, with each title acting as a link to a database
- a list of titles, with brief descriptions, access options, and help files for each title. The help file detailed information about the database and included search instructions.

The Team, after considering our time limitations and the lack of remote access for CD databases, decided to create a model in between these two. Elements we agreed that were needed for each database were:

- title
- years of coverage (as opposed to years of publication)
- brief description
- links for access or for location information

The title used was not necessarily from the 245 field of a MARC record, but could be the database name in common use. Where we had different products drawn from the same data source, it was important to use distinctive titles for each variation with adequate description to help users distinguish among them and to help them decide which resource would best meet their needs. Examples of multiple products on our pages can be seen for *Medline* and *PsycINFO*.

We provided three types of links for access/location information. If we were able to deliver the resource to the desktop, the link consisted of the word "Web" or "Telnet"--that is, the type of connection that would be invoked upon following the link to use that database. If, instead, users needed to come into one of several libraries to access the database through our LAN, we used the phrase "CD Network" as a link to another web page. This second-level page lists which libraries have access to the LAN and provides links to each library's home page, hours, a map, and the ability to send an e-mail message to the library (Contact). The third type of link was for CD-ROM databases that were only available on standalone workstations in a specific library. The link on the One-Stop page consisted of that library's name, such as "Management" or "Rhees Reference," that would in the same way connect users to another page with information similar to the CD Network page. When there was more than one option for access, all applicable types were included as links in the "Access/Location" column. Examples of multiple modes of access on the One-Stop page are *Art Index* and *GeoRef*. The Team felt that most people who used the One-Stop page more than a few times would learn the significance of "CD Network" and "Rhees Reference" on the title list and would no longer need to follow the links to obtain location information. Thus, for frequent users, we consciously tried to keep all relevant information for each database in a single level of display.

## Structure design

Structure design involves how the files are arranged. Large files take a long time to load and to print. Small file size increases the number of files needed to convey the same information, and a large number of files will require too many clicks from the user. The best file size and what constitutes a reasonable number of files are factors that must be considered.

An alphabetical list and subject lists were the major components of the page design. During the testing period, we found that using one alphabetical list took too long for loading and printing. Consequently, we split it into three parts: *a-g*, *h-p*, and *q-z*. They are linked seamlessly. The use of a single, long subject list was rejected for the same reason. Instead, we created one file for each subject. This structure design resulted in shorter loading times and easier printing.

## Navigation design

Navigation design involves how we want people to move around on the site and to easily go back and forth. We used standard, consistent headers and footers, and even though we had many files behind the scenes, it was not apparent to the user. We used a "Go to top" link at the end of each alphabetic section, and subject buttons were at the top of each page for easy access to the subject listings. In the <title> field of the HTML coding, we used consistent title information. We also created meta tags so that search engines could correctly index this page.

## Maintenance

Maintenance involves both contents maintenance and web page maintenance. The Team decided to have one person as a contents editor. All requests regarding the changes in the contents of this page go to her. She can then edit the changes according to standard style and identify where the changes should go on the web pages. This information is then passed on to the WebMaster who makes the required changes.

Web page maintenance is complicated with the current design. Because we have an alphabetical list and subject lists, one title change needs to be reflected in at least two places. If a title appears in more than one subject listing, it must be edited in each of the subject files. We are working on transferring individual title information into a database and hope that will make the maintenance easier.

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## Additional Considerations

In addition to the points covered previously, there were other decisions made during the discussion and development process.

## What We Did Not or Could Not Do

Access to our electronic journals was developed by a separate Electronic Publications Committee. The journals were planned from the beginning to be cataloged individually within Voyager, with links to the full text, and to be searchable along with other materials

in the collection. Electronic journals received different treatment in the One-Stop project. The "Electronic Journals" button on the One-Stop page provides access to a group of journals from a single publisher, with subject links to other e-journals listed on individual library subject pages. In contrast, electronic databases have in the past been cataloged only if they existed as physical pieces, such as CD-ROMs. Remote databases have not been cataloged to this point. Further discussions will be needed to determine the final policy on cataloging remote databases. It is anticipated, however, that whatever the policy, we will continue to provide access to and information about databases through the One-Stop page.

We decided early in discussions to include only a few general web resources--*UnCover*, for example. Even if we expanded the list to include only the very best freely available web resources, One-Stop would quickly become too long, confusing to use, and unmanageable to maintain.

We excluded listing multimedia resources in our Multimedia Center, even though some might be considered databases--*Cinemania*, for instance. The Center has its own web page listing of resources. This decision will need to be reviewed at a later date.

Although we had planned to, we did not put a link on the One-Stop page to our Voyager catalog. Remote access to Voyager is via web browsers, which presented no problem. Access from within the libraries is via the GUI client, and the tricky part is that the GUI client uses Netscape as a helper application. From within the library, a user could open the GUI interface to Voyager and choose to connect to the One-Stop page, which would start Netscape as a helper application. If a link to the catalog were provided on the One-Stop page, the user could then click on it to go back into Voyager using Netscape while still running the GUI client in the background. We felt that the potential for having multiple sessions to the same resource would introduce too many problems.

We have no locally mounted databases to link to on One-Stop, although we may in the future. Any special considerations for providing this type of access have not been addressed in the project to date.

## Implications for Future Development

We have already referred somewhat to the differences in treatment of electronic journals and electronic databases. In the library, we are still working toward a consensus. From the perspective of the authors, it seems reasonable for electronic journals to be accessed within the catalog along with other materials, once members of the university community incorporate these journals into their understanding of available library resources. Providing a separate listing of electronic journals on the web is viewed, at this time, as a short-term method to promote their use. Providing a separate listing of electronic databases, whether they are cataloged in Voyager or not, is viewed as a necessary tool for adequate use.

Another aspect of the One-Stop page that is not yet resolved is maintenance. Currently, two members of the ERT maintain the pages. Under discussion are the roles for public services and technical services in page maintenance, editing and style responsibility, and policy for adding new resources. Because of the short timeline for development, the Electronic Resources Team did little consulting to create One-Stop. Now that it is a reality, we find that our discussions and decisions need to be more inclusive.

Because CD-ROM databases are currently not accessible to remote users, it seems reasonable to pursue, for some of the more heavily-used databases, sources that do provide remote access. Consequently, we anticipate a gradual migration of some databases from CD format to other venues--remote vendor or aggregator gateways, arrangements for locally loading, or consortial sharing agreements. Because of the rapidity with which technology changes, this is always subject to re-evaluation.

An anticipated future benefit to the libraries of identifying resources on the One-Stop page based on access or location characteristics (delivery of content vs. location description) is that it will also help in planning. We can clearly identify at any time the access status of each of our databases and compare that status with other databases in the same or different subject areas. As well, the structure of the One-Stop page allows, for any resource, easily changing from providing location information to inserting coding for connection.

We also anticipate moving more content to the desktop with remote access to full-text resources, datasets, multimedia, etc. Text resources seem fairly straightforward, but other types of content introduce considerations of helper applications beyond a basic set.

The Team understands the need to monitor use of and to talk to the university community about the One-Stop page. We will be asking what is useful, what needs to be improved, and which directions development should take. A project to network the university residence halls is nearing completion--how will the One-Stop page fit in with other resources available to students on a 24-hour basis? What percentage of the campus does not have access to graphical browsers outside of the library and is this perceived as a problem? What kinds of support do we need to provide, and should we partner with other support services on campus to provide them?

These and other questions are related not only to the One-Stop page but to our entire Voyager system. Resources in electronic format blur or eliminate some distinctions about our collections that the libraries have made in the past and create new ones. The Electronic Resources Team, in developing the one-stop concept, has needed to rethink many of our assumptions about the provision of electronic resources. We are certain that this process will continue.

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**Note**

To see Voyager and the One-Stop page together, visit http://groucho.lib.rochester.edu. Click the Database button to connect to the Databases page. Select "One-Stop River Campus Electronic Databases" link to connect to the One-Stop page. Access to most resources on this page is limited to the University of Rochester community.

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